

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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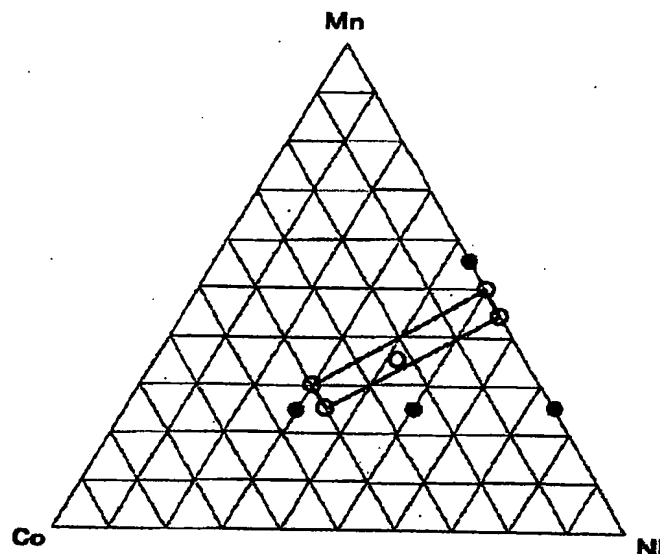
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TITLE : POSITIVE ELECTRODE ACTIVE  
MATERIAL, ITS MANUFACTURING  
METHOD, AND SECONDARY  
BATTERY USING THE SAME



**ABSTRACT :** PROBLEM TO BE SOLVED: To provide a manufacturing method of a positive electrode active material for a secondary battery having high energy density and excellent repetitive charge-discharge performance and to provide a secondary battery using it.

**SOLUTION:** This secondary battery uses a positive electrode active material  $\text{Li}_x\text{Mn}_a\text{Ni}_b\text{Co}_c\text{O}_2$  obtained by heat-treating a mixture comprising a trivalent transition metal compound in a temperature range of 950-1100°C, (where, a, b and c should be positioned in a range shown by a region surrounded by lines connecting four points comprising a point A (a, b, c)=(0.5, 0.5, 0), a point B (0.45, 0.55, 0), a point C (0.25, 0.35, 0.4) and a point D (0.3, 0.3, 0.4) on a ternary state diagram expressing the relationship thereof, and X should be  $0.95 \leq x/(a+b+c) \leq 1.05$ ).

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